ACC DAR Adapting to Climate Change in Coastal Dar es Salaam

International Workshop

TOWARDS SCENARIOS FOR URBAN ADAPTATION PLANNING

Assessing seawater intrusion under climate and land cover changes in Dar es Salaam, Tanzania

Environmental Programmes Decision Support System

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Fabio Attorre

Sapienza University of Rome

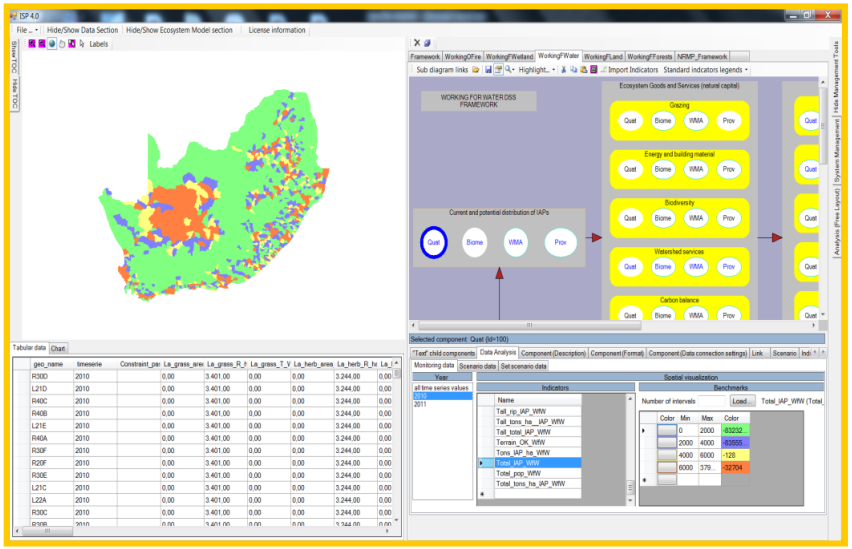
Phone: +393355405411,

Email: fabio.attorre@uniroma1.it

Environmental Programmes Decision Support System

1 - The Italian Cooperation promotes the mainstreaming of conservation in the sustainable development, recognizing the importance and effectiveness of an integrated, participative and adaptive approach to ecosystem management.

2 - To this aim, computerized Decision Support Systems for a holistic, multi-scale, spatially explicit and tailor-made approach to complex decisional environments have been developed



3 - These systems are not meant for scientists, but allow administrators and institutional decision-makers to:

-make the best use of available data, context analyses and other technical contributions
- integrate them with stakeholders views and concerns to develop policies and plans.

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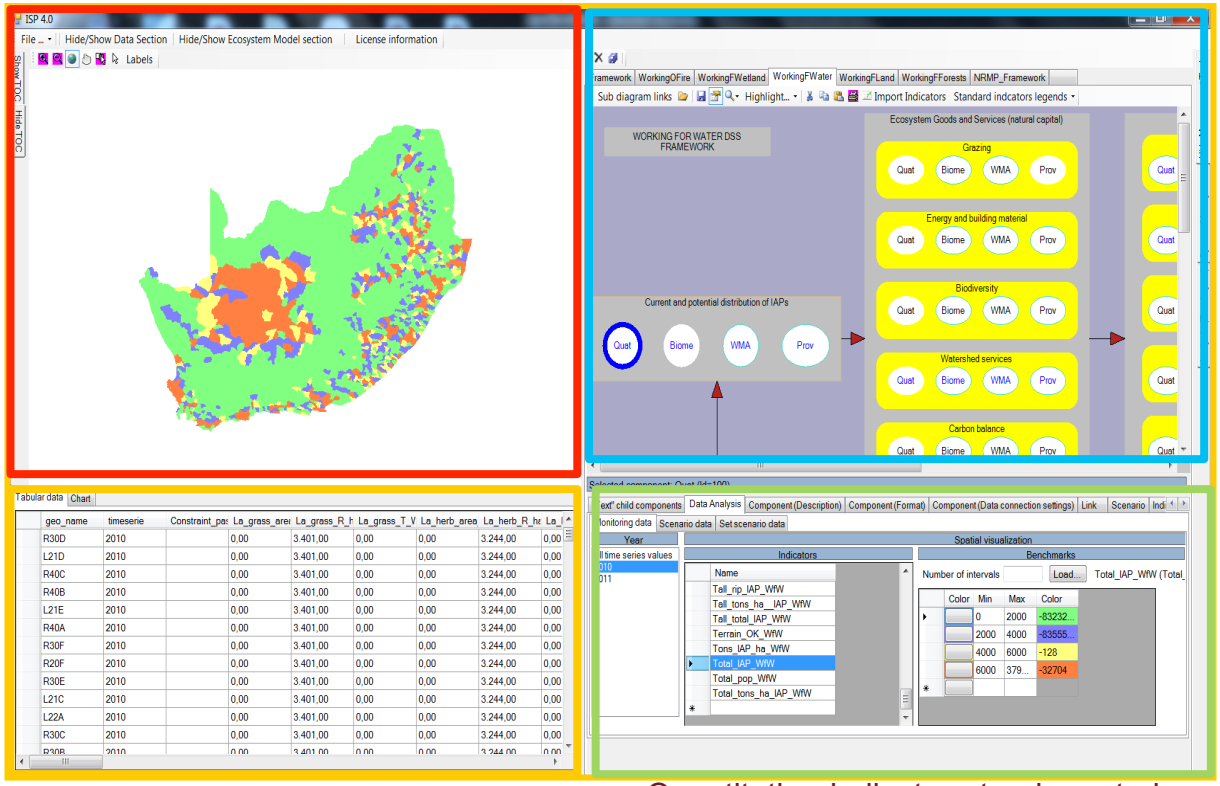
GIS functionalities

Logical framework defining structure and interactions between the different components of the given ecosystem



Data defining the different components of the given ecosystem:
- spatial distribution
- time trends

Quantitative indicators to characterise each system components for the definition of management actions and the monitoring of related achievements

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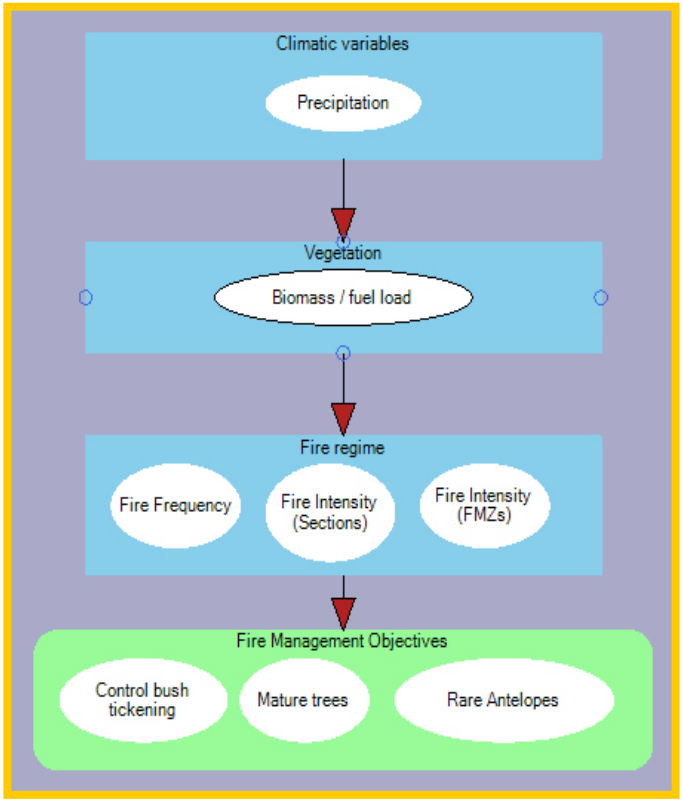

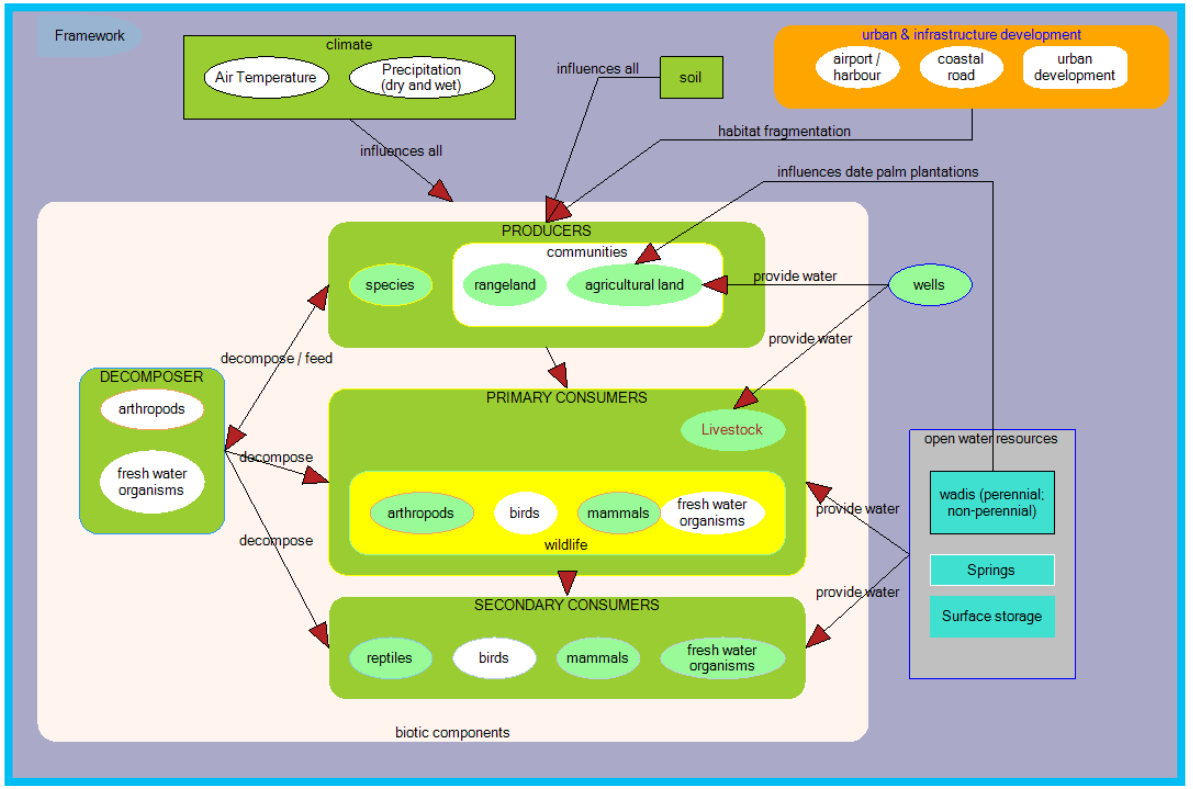

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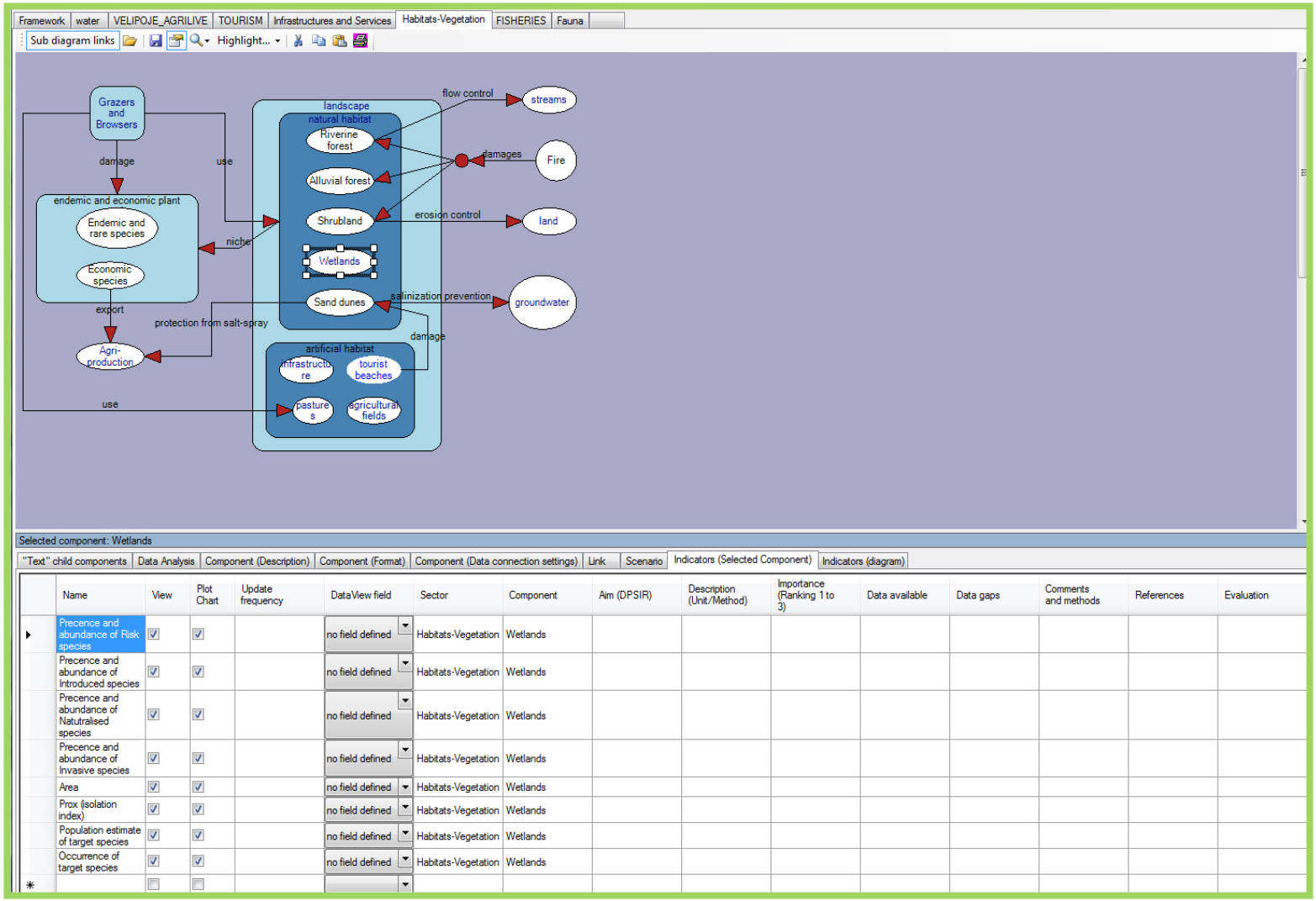

Name	View	Plot Chart	Update frequency	DataView field	Sector	Component	Aim (DPSIR)	Description (Unit/Method)	Importance (Ranking 1 to 3)	Data available	Data gaps	Comments and methods	References	Evaluation
Precence and abundance of Risk species	☑	☑		no field defined	Habitats-Vegetation	Wetlands								
Precence and abundance of Introduced species	☑	☑		no field defined	Habitats-Vegetation	Wetlands								
Precence and abundance of Natutralised species	☑	☑		no field defined	Habitats-Vegetation	Wetlands								
Precence and abundance of Invasive species	☑	☑		no field defined	Habitats-Vegetation	Wetlands								
Area	☑	☑		no field defined	Habitats-Vegetation	Wetlands								
Prox (isolation index)	☑	☑		no field defined	Habitats-Vegetation	Wetlands								
Population estimate of target species	☑	☑		no field defined	Habitats-Vegetation	Wetlands								
Occurrence of target species	☑	☑		no field defined	Habitats-Vegetation	Wetlands								
	☐	☐												

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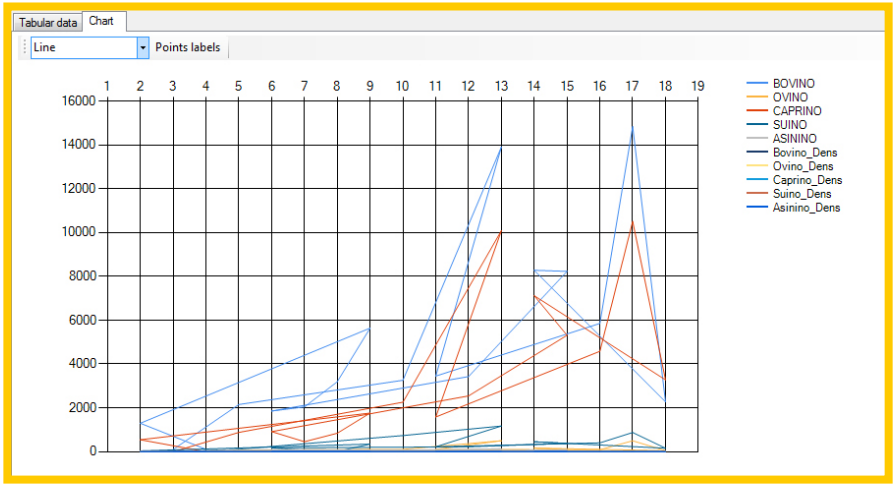
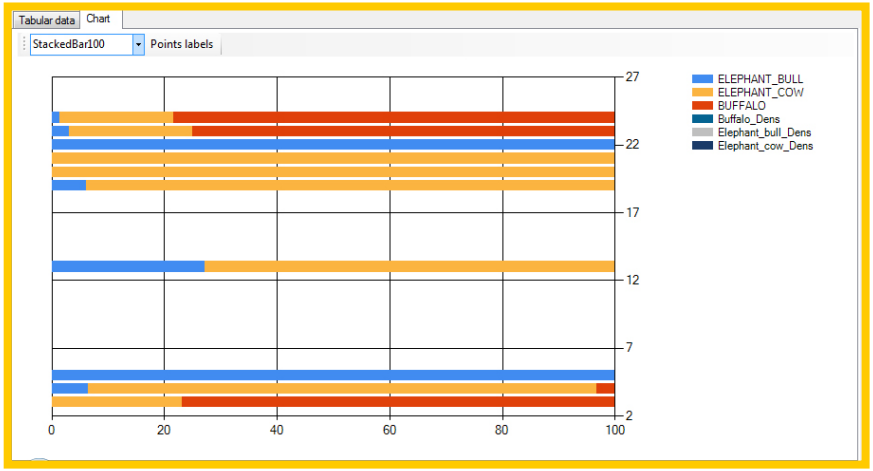
Tabular data | Chart

LOCAL_ID	ANO	BOVINO	OVINO	CAPRINO	SUINO	ASININO	Bovino_Dens	Caprino_Dens	Ovino_Dens	Suino_Dens	Asinino_Dens
3	2009	100	0	0	0	0	0.00	0.00	0.00	0.00	0.00
5	2009	2153	73	879	113	93	0.02	0.01	0.00	0.00	0.00
10	2009	3260	109	2259	737	82	0.03	0.02	0.00	0.01	0.00
13	2009	13908	502	10089	1170	137	0.06	0.04	0.00	0.00	0.00
11	2009	3450	109	1583	224	8	0.08	0.04	0.00	0.01	0.00
16	2009	5853	89	4584	402	13	0.08	0.06	0.00	0.01	0.00
17	2009	14836	498	10506	877	9	0.08	0.06	0.00	0.00	0.00
18	2009	2271	47	3275	158	28	0.14	0.20	0.00	0.01	0.00
14	2009	8277	168	7118	452	27	0.13	0.11	0.00	0.01	0.00
15	2009	8227	100	5311	381	89	0.10	0.07	0.00	0.00	0.00
12	2009	3427	56	2544	224	54	0.04	0.03	0.00	0.00	0.00
6	2009	1854	54	916	172	96	0.03	0.01	0.00	0.00	0.00
7	2009	2044	13	456	66	35	0.11	0.03	0.00	0.00	0.00
8	2009	3192	22	843	9	52	0.06	0.02	0.00	0.00	0.00
9	2009	5639	90	1763	346	40	0.10	0.03	0.00	0.01	0.00
2	2009	1296	2	546	37	8	0.07	0.03	0.00	0.00	0.00
4	2009	107	0	0	0	0	0.00	0.00	0.00	0.00	0.00





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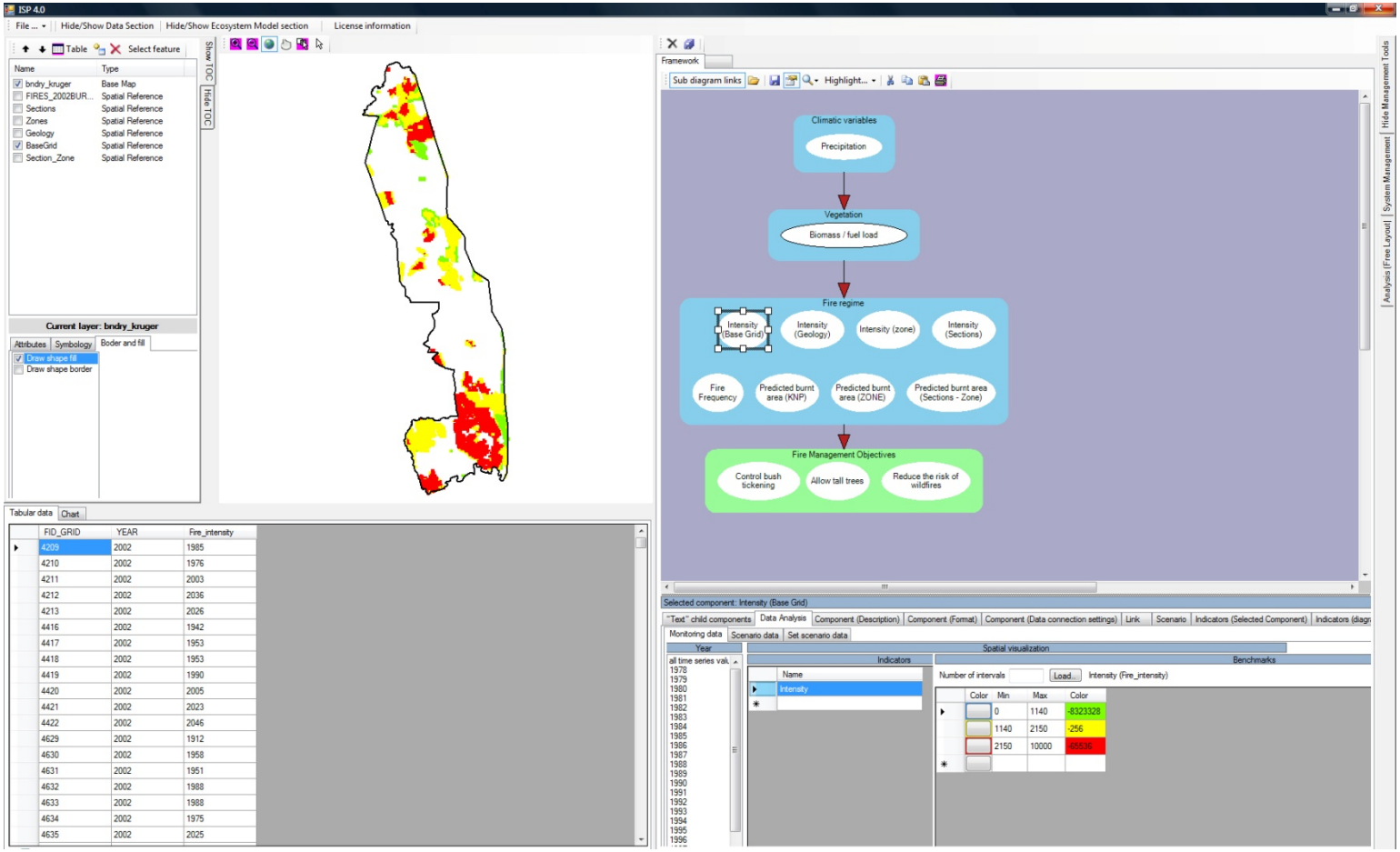

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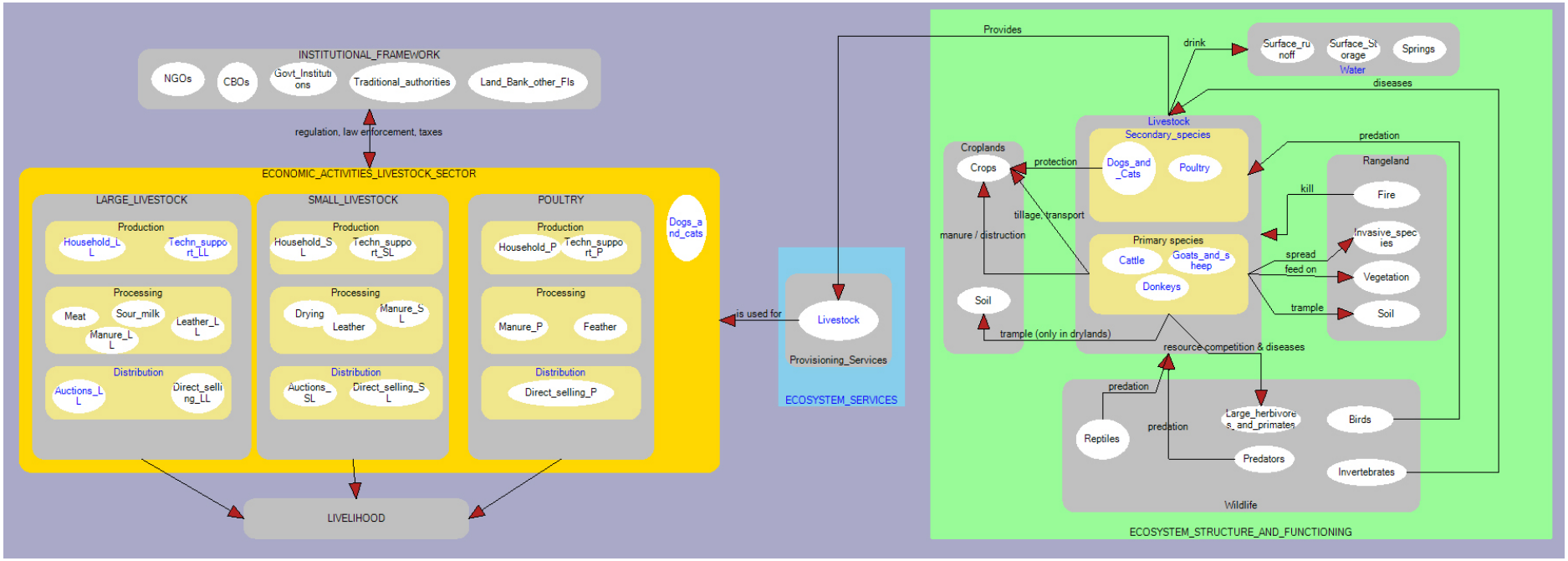
Livestock economic sectors sustains the livelihood of local communities

Ecosystem structure and functions



Ecosystems services

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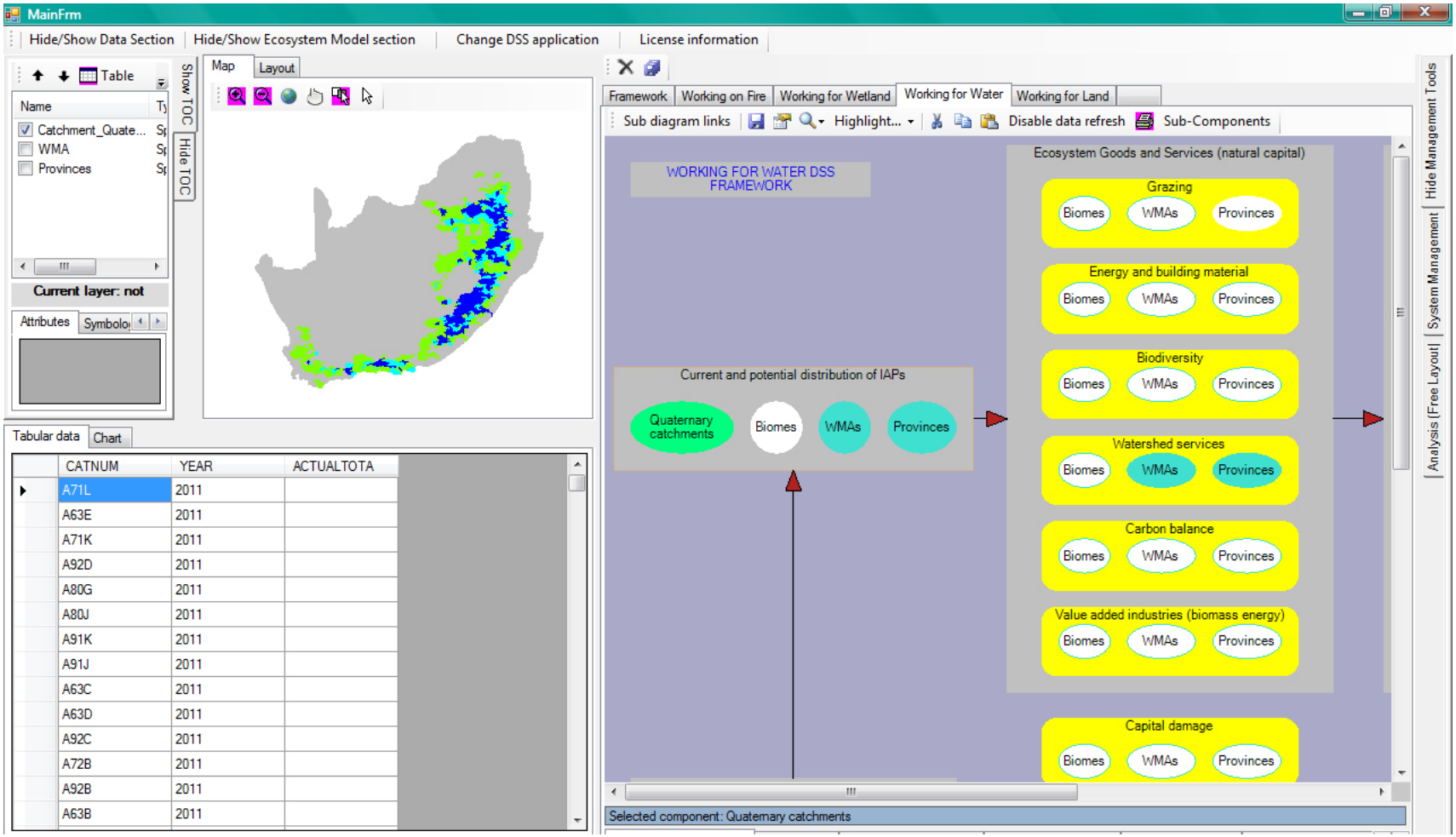

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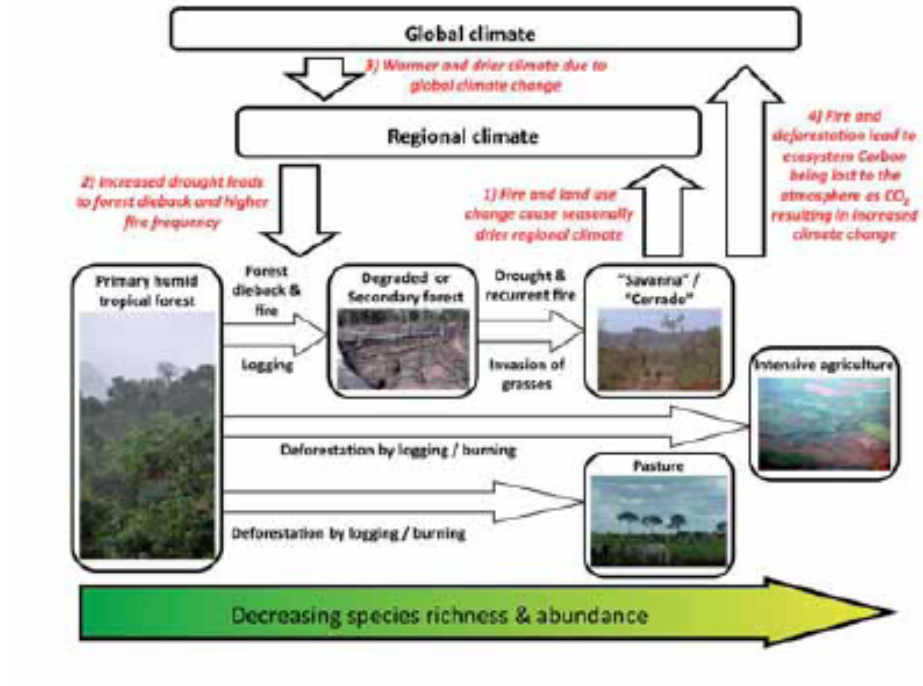

FIGURE 1

Interactions between global climate, regional climate, fire and deforestation that lead to loss and degradation of Amazonian primary tropical forest. Adapted from Nepstad et al. (2008) and the Crossroads of Life (CoL 2007). The vegetation that will result from repeated drought and fire over many decades remains somewhat speculative ("Savanna" box). For clarity, several key land use types, especially forest plantations and mixed land use systems have been omitted, as have several key transitions, including the transition back to secondary forest following land abandonment. Image credits from left to right: CNRS Photothèque / C. Delhaye, CNRS Photothèque / H. Thery , P. Leadley, CNRS Photothèque / F.-M. Le Tourneau, CNRS Photothèque / H. Thery

Operationalise the Ecosystem Approach and contextualize indicators represent two important steps for an effective conservation of biodiversity and sustainable development.

The approach I presented can satisfy these needs being applicable at different scale and different management contexts.